

Z-direction and the element bag portion E1 is gradually shifted to the normal swelling, so that the finger 30a obtains the concave and convex touch feeling in which the reactive force is gradually decreased.

[0198] In this manner, the output [pa] of the piezoelectric unit 315 is controlled by making the position detection signal S1 and the press detection signal S2 as the triggers, so that it becomes possible to represent the more real and local concave and convex touch feeling.

[0199] The following will describe an information processing example of the mobile phone 600. FIG. 23 shows a control example of a display unit and a touch-sensitive variable sheet unit in the mobile phone 600 at a time of execution of application.

[0200] In this example, there is cited a case in which, based on the selection of the application #A or #B, the mobile phone 600 mounted with the input device 300 displays either of the operation screens shown in FIGS. 19A and 19B and, by linking with this display, the sense-of-touch-representing unit is built by sending the air to the element bag portions E1 to E17 (first group) or the element bag portions E18 to E25 (second group) in the touch-sensitive variable sheet unit 103 (hereinafter, referred to as operation panel building mode). In this example, a case is illustrated in which a selection candidate is changed over in order of the application #A and the application #B with respect to the operation panel building mode base on an application execution instruction.

[0201] By setting these as the operation panel changeover condition, the CPU 32 inputs an application execution instruction at step ST1 of the flowchart shown in FIG. 23. The application execution instruction is given to the CPU 32, for example, by making power switch-ON information as a trigger. Thereafter, the process shifts to step ST2 where the CPU 32 branches the control thereof depending on whether the application execution instruction is an execution instruction of the application #A or an execution instruction of the other application. If the application execution instruction is an execution instruction of the application #A, then the process shifts to step ST3 where the CPU 32 reads control information of the application #A. The control information is made correspondence with the application #A, the application #B or the like beforehand. The CPU 32 controls the display unit 29 so as to change over the display thereof based on the control information.

[0202] At that time, the CPU 32 outputs an image signal Sv to the display unit 29 based on the control information. The display unit 29, based on the image signal Sv, displays the icon images of the key K1 of numeral "1" to the key K10 of numeral "0", the key K11 of symbol "*", the key K12 of symbol "#", the key K13 of determination "O" of the cross key, the left facing arrow key K14 thereof, the upward facing arrow key K15 thereof, the right facing arrow key K16 thereof and the downward facing arrow key K17 thereof, which form the icon images of the first group (referred to as FIG. 19A).

[0203] Also, the CPU 32 outputs the instruction data D based on the control information to the air-circulation unit 3 of the touch-sensitive variable sheet unit 103. The air-circulation unit 3 executes a changeover control so as to open the valve body 304 and to shut off the valve body 305 based on the instruction data D in order to select the flow channel 2a. The blower 3b sends the air to the flow channel 2a selected by the flow channel changeover unit 3a. The piezoelectric unit 315 constituting the blower 3b adjusts an amount of the air. The

piezoelectric unit 315 is controlled by the instruction data D inputted from the CPU 32. This control enables the concave and convex touch feeling of the seventeen element bag portions E1 to E17 of the first group to change.

[0204] In this example, the display region of the key K1 of numeral "1" corresponds to the element bag portion E1 shown in FIG. 18, and similarly, the display region of the key K2 of numeral "2" corresponds to the element bag portion E2 shown in FIG. 18. The display region of the key K3 of numeral "3" corresponds to the element bag portion E3 shown in FIG. 18. The display region of the key K4 of numeral "4" corresponds to the element bag portion E4 shown in FIG. 18. The display region of the key K5 of numeral "5" corresponds to the element bag portion E5 shown in FIG. 18. The display region of the key K6 of numeral "6" corresponds to the element bag portion E6 shown in FIG. 18. The display region of the key K7 of numeral "7" corresponds to the element bag portion E7 shown in FIG. 18. The display region of the key K8 of numeral "8" corresponds to the element bag portion E8 shown in FIG. 18. The display region of the key K9 of numeral "9" corresponds to the element bag portion E9 shown in FIG. 18. The display region of the key K10 of numeral "0" corresponds to the element bag portion E10 shown in FIG. 18. The respective display regions enable the concave and convex touch feeling to be given to the operator's finger when the slide operation or the press operation is executed.

[0205] Further, the display region of the key K11 of symbol "*" corresponds to the element bag portion E11 shown in FIG. 18 and the display region of the key K12 of symbol "#" corresponds to the element bag portion E12. The respective display regions enable the concave and convex touch feeling to be given to the operator's finger. Similarly, the display region of the key K13 of determination "O" which forms the cross key corresponds to the element bag portion E13, the display region of the left facing arrow key K14 thereof corresponds to the element bag portion E14 and the display region of the upward facing arrow key K15 thereof corresponds to the element bag portion E15. Further, the display region of the right facing arrow key K16 thereof corresponds to the element bag portion E16 and the display region of the downward facing arrow key K17 thereof corresponds to the element bag portion E17. When the slide operation or the press operation is executed, the respective display regions enable the concave and convex touch feeling to be given to the operator's finger.

[0206] Then, the CPU 32 executes the application #A at step ST4. The application #A is such a processing for inputting the information by operating, for example, the key K1 of numeral "1" to the key K10 of numeral "0", the key K11 of symbol "*", the key K12 of symbol "#", the key K13 of determination "O" of the cross key, the left facing arrow key K14 thereof, the upward facing arrow key K15 thereof, the right facing arrow key K16 thereof or the downward facing arrow key K17 thereof.

[0207] Thereafter, the process shifts to step ST5 where the CPU 32 judges an end of the application #A. If there is no end-instruction of the application #A, the process returns to the step ST4 where the display unit 29 continues the display of an operation panel image relating to the application #A. If there is the end-instruction of the application #A, the process shifts to step ST6 where the CPU 32 transmits the instruction data D to the air-circulation unit 3 so as to control stopping the